



MEMPHIS AND SHELBY COUNTY HEALTH DEPARTMENT

AIR QUALITY FORECAST & ACTION GUIDE

	AIR QUALITY (AQI)	WEATHER CONDITIONS	HEALTH PRECAUTIONS	POLLUTION REDUCTION TIPS
CODE GREEN	GOOD (0 – 50)	<ul style="list-style-type: none"> • Cooler Than Normal Temperatures • Moderate Winds • Increased Cloud Cover • Possible Precipitation 	No Health Impacts Are Expected When Air Quality Is In This Range	<i>Throughout The Ozone Season:</i> <ul style="list-style-type: none"> • Carpool or Use Mass Transit • Keep Cars and Boats Tuned to Manufacturer Specifications • Use Environmentally Safe Paints and Cleaning Products
CODE YELLOW	MODERATE (51 – 100)	<ul style="list-style-type: none"> • Mild Temperatures • Light to Moderate Winds • Possible Cloud Cover 	Unusually Sensitive People Should Consider Limiting Prolonged Outdoor Exertion	<i>MSCHD Suggests That Residents:</i> <ul style="list-style-type: none"> • Combine Trips and Errands • Limit Engine Idling • Conserve Electricity and Set Your Air Conditioner to a Warmer Setting
CODE ORANGE	UNHEALTHY FOR SENSITIVE GROUPS (101 – 150)	<ul style="list-style-type: none"> • Increasingly Stagnant Conditions • Very Warm Temperatures • Light Winds • Mostly Clear Skies 	Active Children and Adults, and People with Respiratory Disease, Such as Asthma, Should Limit Prolonged Outdoor Exertion	<i>MSCHD Strongly Suggests That Residents:</i> <ul style="list-style-type: none"> • Refuel Cars and Mowers After 7:00 pm • Carpool, Combine Errands, and Reduce Trips • Drive Less During Peak Hours
CODE RED	UNHEALTHY (151 – 200)	<ul style="list-style-type: none"> • Stagnant Conditions • Hot Temperatures • Minimal Winds • Clear Skies 	Active Children and Adults, and People With Respiratory Disease, Such as Asthma, Should Avoid Prolonged Outdoor Exertion, All Others Should Limit Prolonged Outdoor Exertion	<i>MSCHD Urges That Residents:</i> <ul style="list-style-type: none"> • Refuel Cars and Mowers After 7:00 pm • Avoid Mowing Lawns With Gasoline Powered Mowers • Use Area Bus and Rail Lines, or Share a Ride to Work • Limit Driving and Combine Errands • Listen for Air Quality Updates
CODE PURPLE	VERY UNHEALTHY (201 – 300)	<ul style="list-style-type: none"> • Extremely Stagnant Conditions • Very Hot Temperatures • No Winds • Clear Skies 	Active Children and Adults, and People With Respiratory Disease, Such as Asthma, Should Avoid All Outdoor Exertion, All Others Should Limit Outdoor Exertion	<i>MSCHD Strongly Urges That Residents:</i> <ul style="list-style-type: none"> • Significantly Reduce or Avoid Vehicle Use • Avoid Refueling Cars Until After 7:00 pm or When Conditions Improve • Use Area Bus and Rail Lines, or Share a Ride to Work • Listen for Air Quality Updates

FOR UPDATED AIR QUALITY FORECASTS AND MONITORED INFORMATION:

MEMPHIS AND SHELBY COUNTY HEALTH DEPARTMENT • (901) 544-7349

COMPUTERIZED LOCAL AIR INDEX REPORTING SYSTEM (CLAIR) • (901) 544-7489 • 544-7490

“WE CARE ABOUT YOUR AIR”

http://www.shelbycountyttn.gov/FirstPortal/dotShowDoc/Government/CountyServices/HealthServices/EnvironmentalHealth/air_pollutionindex.htm

GROUND – LEVEL OZONE POLLUTION

- Ground-level ozone poses a significant health risk to residents throughout the Memphis metropolitan area and surrounding rural regions. Elevated concentrations of ground-level ozone are most prevalent during the summer months. Occasionally, ozone concentrations exceed federal health standards that were established by the Environmental Protection Agency (EPA).
- Ozone is a primary constituent of urban smog. Ground-level ozone forms most rapidly under stable weather conditions when skies are clear, winds are light, and temperatures are hot. Weather conditions conducive to high ozone concentrations occur when high pressure dominates in both the lower and upper levels of the atmosphere.
- Ground-level ozone can impact the health of everyone. The elderly, young children, and persons with pre-existing respiratory difficulties are most at risk from the dangers of ground-level ozone. At high concentrations, even healthy adults may experience the detrimental effects of ground-level ozone.

What is Ground-Level Ozone?

Ground-level ozone is a colorless gas that forms near the earth's surface and is present in the air that we breathe. Ozone is composed of three oxygen molecules that are bonded together. The air that we breathe should normally contain only two bonded oxygen molecules. The ozone compound contains this additional oxygen molecule, which makes it highly reactive. Ozone that is present near the surface of the earth differs from ozone that is in the upper levels of the atmosphere, known as the stratospheric ozone layer. The stratospheric ozone layer helps to protect the surface of the earth from harmful cancer-causing rays that are emitted from the sun. Ground-level ozone is harmful to human health and is considered a hazardous air pollutant.

How Does Ground-Level Ozone Form?

Ground-level ozone forms through a photochemical reaction between volatile organic compounds (VOCs) and nitrogen oxides (NO_x). These chemical compounds are produced in the lower atmosphere and react in the presence of sunlight and warm temperatures to form ozone. The primary sources of VOCs and NO_x compounds are from automobile and industrial emissions. These compounds combine to form ozone most rapidly during summer afternoon's when weather conditions are dry, hot, and stagnant. These ideal weather conditions can allow ozone levels to reach unhealthy levels during the ozone season (March through October).

How Does Ozone Impact Our Health?

Ground-level ozone is detrimental to human health because it interferes with the human respiratory system. Exposure to ground-level ozone can lead to respiratory diseases or aggravate pre-existing conditions. Ground-level ozone can irritate the lungs and trigger increased coughing, throat irritation, increased congestion, and chest pains. Prolonged exposure to high concentrations of ozone can lead to the development or worsening of serious respiratory diseases such as bronchitis, emphysema, and can cause asthma (latest study concluded that ozone not only irritates asthma but can cause it). Medical studies have indicated that ozone damages lung tissue and that harmful effects often remain even after exposure to high concentrations of ozone has ended.

Where Do I Get Air Quality Information?

Air quality forecasts and maximum daily pollution values are available every afternoon by 4:00 pm during the ozone season. Ozone forecasts can also be accessed through the Shelby County Government website. Local television stations broadcast hazardous air quality forecasts and conditions as necessary. Hazardous air quality conditions and forecasts are also available through NOAA Weather Radio broadcasts provided by the Memphis National Weather Service forecast office (NWSFO).

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